

AMENDMENT IN THE CLAIMS

Please amend Claims 23 and 29.

Please add Claims 31-35.

1.-22. (canceled).

23. (currently amended) A module for determining a driving signal timing for a liquid crystal display (LCD) device, comprising:

a flexible base substrate;

a gate-driving signal input line formed on one side of the base substrate that applies a gate-driving signal to the gate-driving signal input line;

a gate-driving IC mounted on the flexible base substrate to be connected to the gate-driving signal input line; and

a plurality of gate-driving signal output lines formed on the flexible base substrate that are connected to output terminals of the gate driving IC.

24. (previously presented) The module of claim 23, wherein a difference between a level of the gate-driving signal from the signal transmitting line and a level of the gate-driving signal from the last output terminal of the output terminals of the gate-driving IC is adjusted to be within a predetermined range.

25. (previously presented) The module of claim 24, wherein a portion of the signal transmitting line passes through the inside of the gate-driving IC while the level of the gate-driving signal from the signal transmitting line and the level of the gate-driving signal from the last output terminal of the output terminals of the gate-driving IC are within a predetermined range.

26. (previously presented) The module of claim 24, wherein the level of the gate-driving signal from the signal transmitting line and the level of the gate-driving signal from the last output terminal of the output terminals of the gate-driving IC are within a predetermined range by adjusting an intrinsic resistance of the signal transmitting line.

LAW OFFICES OF  
MACFARLAIN KWOK CHEN  
& BEID LLP  
2402 MICHELSON DRIVE  
SUITE 210  
IRVINE, CA 92612  
(949) 752-7010  
FAX (949) 752-7049

27. (previously presented) The module of claim 23, wherein the flexible base substrate has a signal input line connected to the gate-driving IC and at least one signal transmitting line separated from the signal input line.

28. (previously presented) The module of claim 27, wherein the level of the gate-driving signal from the signal transmitting line and the level of the gate-driving signal from the last output terminal of the output terminals of the gate-driving IC are within a predetermined range.

29. (currently amended) A liquid crystal display (LCD) panel assembly, comprising:

an integrated printed circuit board (PCB) that generates a gate-driving signal and a data-driving signal;

a liquid crystal display (LCD) panel including a TFT substrate having a plurality of columns of data lines formed thereon so that the data-driving signal is applied to a plurality of thin-film transistors (TFTs) formed in a matrix form on a transparent substrate, a plurality of rows of gate lines formed thereon so that the gate-driving signal is applied to the plurality of thin-film transistors (TFTs), and pixel electrodes formed thereon so that a certain signal is applied thereto and maintained, the pixel electrode being connected to the plurality of thin-film transistors (TFTs), a color filter substrate having common electrodes opposite to the pixel electrodes and RGB pixels formed thereon, and a liquid crystal material sealed between the color filter substrate and the TFT substrate; a data-driving signal timing module that applies the data-driving signal to the plurality of columns of data lines allocated, at a designated time; and

a gate-driving signal timing module that applies the gate-driving signal to the plurality of rows of gate lines allocated, at a designated time.

30. (previously presented) A method for driving a liquid crystal display (LCD) panel assembly, comprising:

applying a gate-driving signal generated from an integrated printed circuit board (PCB) to a plurality of gate lines formed on a liquid crystal display (LCD) panel so that a level of a turn-off signal for maintaining a thin-film transistor (TFT) formed on the liquid crystal display (LCD) panel in a turned-off state among the applied gate-driving signal is modified

linearly as the gate line goes from a first gate line to a last gate line of the plurality of gate lines;

applying a corresponding data-driving signal generated from the integrated printed circuit board (PCB) to a plurality of data lines formed on the liquid crystal display (LCD) panel; and

selecting any one of the plurality of gate lines, and then applying a turn-on signal generated from the integrated from the integrated printed circuit board (PCB) to the selected gate line for a predetermined period of time.

31. (new) The module of claim 23, wherein the gate driving IC linearly modifies a level of the gate-driving signal inputted to a first gate line through a last gate line of a plurality of gate lines formed on a TFT substrate when diverging the applied gate-driving signal in a parallel way so as to input the applied gate-driving signal to the plurality of gate lines, and then, output the linearly modified gate-driving signal through output terminals thereof.

32. (new) The module of claim 23, wherein the plurality of gate-driving signal output lines are adapted to allow the gate-driving signal outputted from the output terminals of the gate-driving IC to have a linear level and to be applied to the plurality of gate lines,

33. (new) The module of claim 32, wherein a signal transmitting line is formed on the flexible base substrate and connected to the gate-driving signal input line in parallel, so that the gate-driving signal applied to the gate-driving signal input line is not applied to the gate-driving IC and is bypassed toward outside of the flexible base substrate.

34. (new) The LCD panel assembly of claim 29, further comprising a signal transmitting means having a first signal transmitting means allowing the gate-driving signal to be applied to the thin-film transistor (TFT) substrate from the integrated printed circuit board (PCB), a second signal transmitting means allowing the gate-driving signal to be applied to the gate-driving signal timing module from the thin-film transistor (TFT) substrate, and a third signal transmitting means allowing the gate-driving signal to be applied to another gate-driving signal timing module adjacent to the gate-driving signal timing module therefrom.

LAW OFFICES OF  
MACPHERSON KWOK CHIEN  
& HEID LLP  
3402 MICHELSON DRIVE  
SUITE 210  
IRVINE, CA 92612  
(949) 752-7040  
FAX (949) 752-7049

35. (new) The LCD panel assembly of claim 34, wherein the second signal transmitting means is a first signal transmitting pattern formed in such a manner that the second signal transmitting means is formed on the TFT substrate, and is connected at one end to the first signal transmitting means and is connected at the other end to the gate-driving signal timing module at the same time when forming the plurality of columns of data lines and the plurality of rows of gate lines

LAW OFFICES OF  
MACPHERSON KWOK CHEN  
& HEID 147

2402 MICHELSON DRIVE  
SUITE 210  
IRVINE, CA 92613  
(949) 752-7040  
FAX (949) 752-7049

v1

-5-

Serial No. 10/629,581